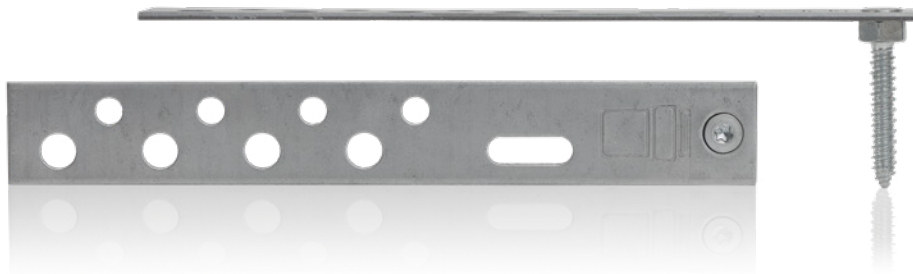


# blaugelb Protect fastening system installation instructions

Tested safety, for a good feeling.

The tested blaugelb Protect fastening system enables building components to be attached adjustably, without the use of wedges and with craftsmanship quality. It also meets safety-relevant requirements.

The blaugelb Protect fastening system can be combined with all sealing systems.



## Planning:

Construction elements imposing safety requirements on the fastening system require particular planning and preparation:

- The necessary safety attachment points must be determined from the requirements on the construction elements and the building documentation (see also Appendix II)
- The required length of the blaugelb Protect fastening system must be selected based on the specified mounting position of the windows/doors in the bearing anchor base (the blaugelb Protect fastening system must not project beyond the inner edge of the soffit)
- The fasteners in the bearing anchor base must be determined (see Appendix I)
- For planning support, please refer to the application examples in Appendix I

## Mounting steps:

1. Drill pilot holes in the window frame at the positions specified in the plan.

Drilling side:	rear of window frame
Hole depth:	see Appendix I
Hole diameter:	5 or 6 mm (depending on frame material)

### Note:

The blaugelb Protect fastening system can be used in combination with a variety of sealing materials. It is also suitable for combination with multifunctional tapes (e.g. blaugelb Multifunctional tape TrioSDL<sup>600</sup>).

Installation situation: pilot hole drilled in window frame, hole goes all the way through

- Position the multifunctional tape in the required position on the window frame
- "Punch through" the multifunctional tape at the anchoring holes by means of a mandrel, awl or similar

Installation situation: pilot hole not drilled in window frame

- Position the multifunctional tape in the required position on the window frame
- Secure the multifunctional tape over a wide area around the planned drill hole in order to prevent the tape from detaching from the window frame during drilling, and drill using a sharp drill

# blaugelb Protect fastening system installation instructions

Tested safety, for a good feeling.

**2.** Using a cordless screwdriver and T30 bit (medium speed), screw the adjusting screw of the blaugelb Protect fastening system into the holes that have been drilled until the construction element to be mounted can be inserted easily into the anchor base.

## Warning:

Wooden windows: Make sure that the adjusting screw is screwed in to at least the minimum screw-in depth of 30 mm. See Appendix I

Plastic windows: Make sure that the adjusting screw is screwed into the steel reinforcement to at least the minimum screw-in depth of 15 mm. See Appendix Ia

Metal windows: Make sure that the adjusting screw is screwed into the aluminium chamber to at least the minimum screw-in depth of 15 mm. See Appendix Ib

Repeat the procedure at all required positions.

## NOTE:

The blaugelb Protect fastening system can be screwed through the multifunctional tape.

Select the speed of the cordless screwdriver so that the multifunctional tape is not pulled off the rear of the window frame. If necessary, the screwing-in process can be assisted by holding the flat of your hand firmly against the multifunctional tape.

**3.** Set the construction element into the desired opening in the component and the planned installation position in the anchor base. Align the construction element to the required lower installation height and joint.

If the blaugelb Protect fastening system is also used at the bottom, align the heights using the adjusting function with the relevant blaugelb Protect Spanner galv.



The arrow on the respective jaw of the blaugelb Protect Spanner galv. indicates the direction of rotation in which you can adjust the construction element by means of the hexagon nut.

Warning: Measures must be taken to prevent the construction element falling out.

**4.** Align the construction element vertically.

Take the necessary line of the window planes into consideration if necessary.

**5.** Turn out all blaugelb Protect fasteners pre-mounted on the window frame flush and tightly against the soffit/lintel using the blaugelb Protect Spanner galv.

- Check that the window/door remains vertically aligned.
- Turn the blaugelb Protect fastening system into a suitable position for permanent fixing to the anchor base.

Warning: The optimum position for permanent fixing is understood to be horizontal to the breastwork / floor slab / ceiling. If this position cannot be achieved, the position can be rotated around an angle of up to  $\pm 25^\circ$ . The blaugelb Protect fastening system must not project beyond the inner edge of the soffit.

**6.** Fasten in the bearing anchor base.

**6.1.** Criteria for selecting the specific attachment point in the anchor base:

- Adherence to the minimum edge distance in the anchor base
  - blaugelb Frame Screw Fix = at least 60 mm
  - building control-approved wall-plug system = conforming to the requirements in the approval
- Select an anchoring hole as close as possible to the window frame. Avoid damage to the surface of the window frame from the drill or screw chuck.
- Generally **one anchoring point** is used for fastening to the building structure.

## Note:

The blaugelb Protect fastening system has prepared anchoring holes of 8.05 mm and 10.5 mm and a slot of 8.05 mm x 25 mm.

The slot allows the construction elements to be adjusted vertically. If this is used for fixing in the anchor base, a second fastener must be mounted. The second wall fastener must be positioned at an axis distance of at least 30 mm from the first fastener. Only blaugelb Frame Screws are permitted.

**6.2.** Drill the screw holes through the round holes in the blaugelb Protect Fastener. The hole depth must be at least 10 mm deeper than the required minimum screw-in depth of the chosen fastener.

The minimum screw-in depth depends on the material of the anchor base. Note the manufacturer's requirements.

Match the hole diameter to the chosen fastener and respective anchor base. Note the manufacturer's requirements.

Repeat the process for all pre-mounted blaugelb Protect fastening systems.

**6.3.** Carry out a final check of the correct window position (vertically/horizontally).

**6.4.** Screw the selected wall fasteners into the holes that have been drilled. Make absolutely sure you do not overtighten the fastener in the wall material. If using blaugelb Frame Screws FK-T30 7.5 x L, screw them in until the flat heads lie on the blaugelb Protect fastening system.

Repeat this process for all pre-mounted blaugelb Protect fastening systems.

**Note:**

If a wall fastener has been overtightened in the screw hole, always drill a new hole and screw a fastener into it. Reusing the same hole will result in a loss of 70 % of the bearing capacity – which means that the high requirement on the necessary load absorption can no longer be met.

**6.5.** Carry out a final check of all anchoring points in the window frame and wall material.

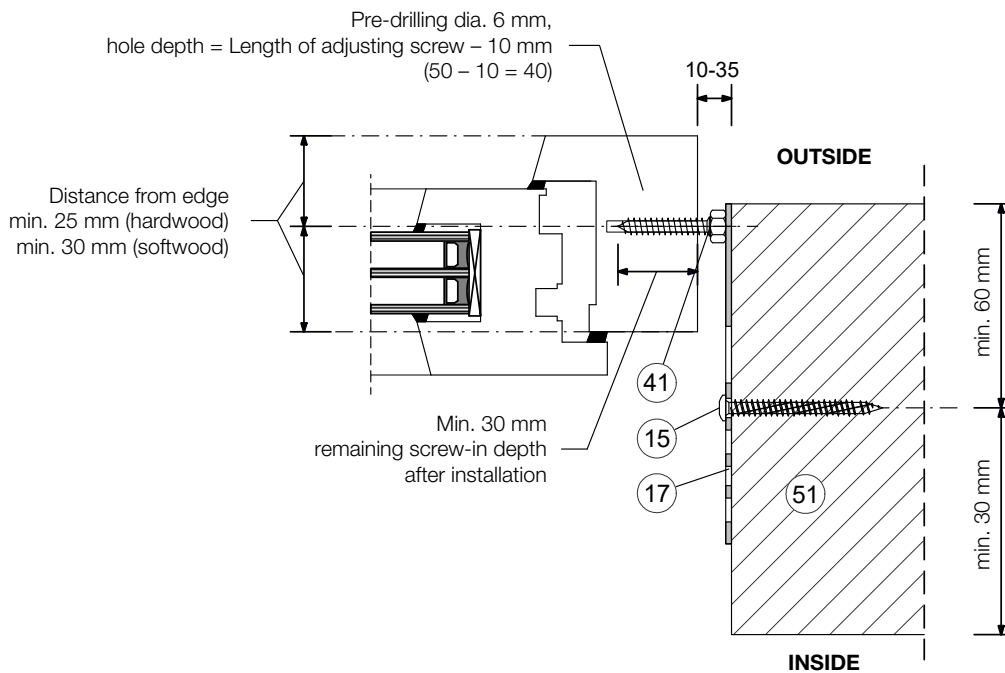
**7.** Document what has been done.

It is essential to document execution of the safety-related anchoring for the client and confirm that the installation instructions have been fulfilled. An explicit installation report is advisable.

**APPENDICES**

Appendix I:

Edge distance for wooden windows



15 | blaugelb Frame Screw Fix FK-T30 7.5 x L

**Matching screw-in depths:**

Concrete	min. 40 mm
Sand-lime brick	min. 60 mm
Hollow brick	min. 180 mm
Porous concrete	
PP2	min. 210 mm
PP4 / PP6	min. 180 mm
Wood	min. 60 mm

17 | blaugelb Protect

41 | Adjusting screw in blaugelb Protect acc. to Table 1

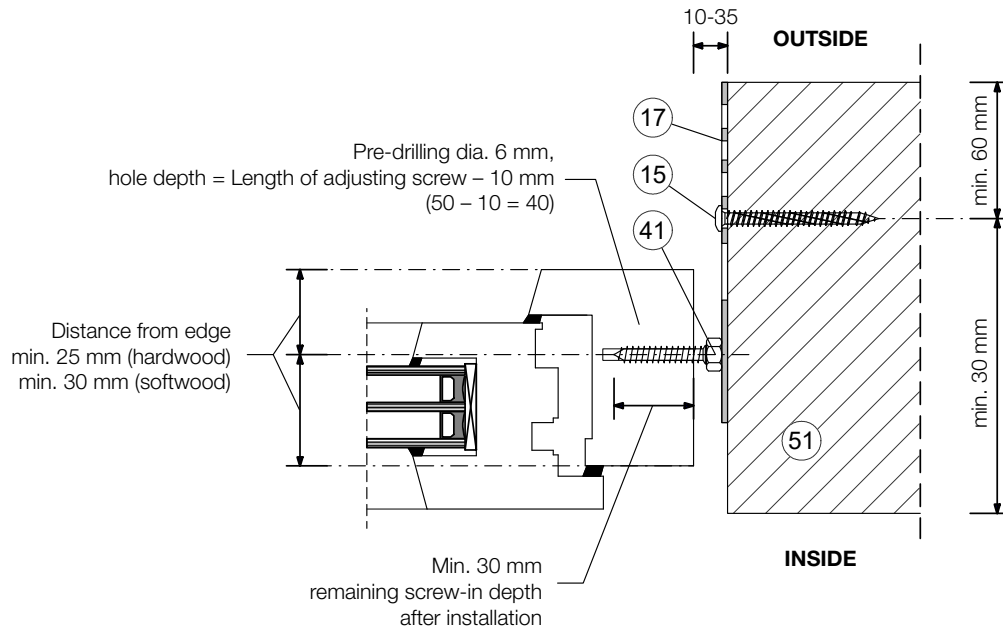
51 | Supporting wall structure

# blaugelb Protect fastening system installation instructions

Tested safety, for a good feeling.

Appendix I:

Edge distance for wooden windows



15 blaugelb Frame Screw Fix FK-T30 7.5 x L

**Matching screw-in depths:**

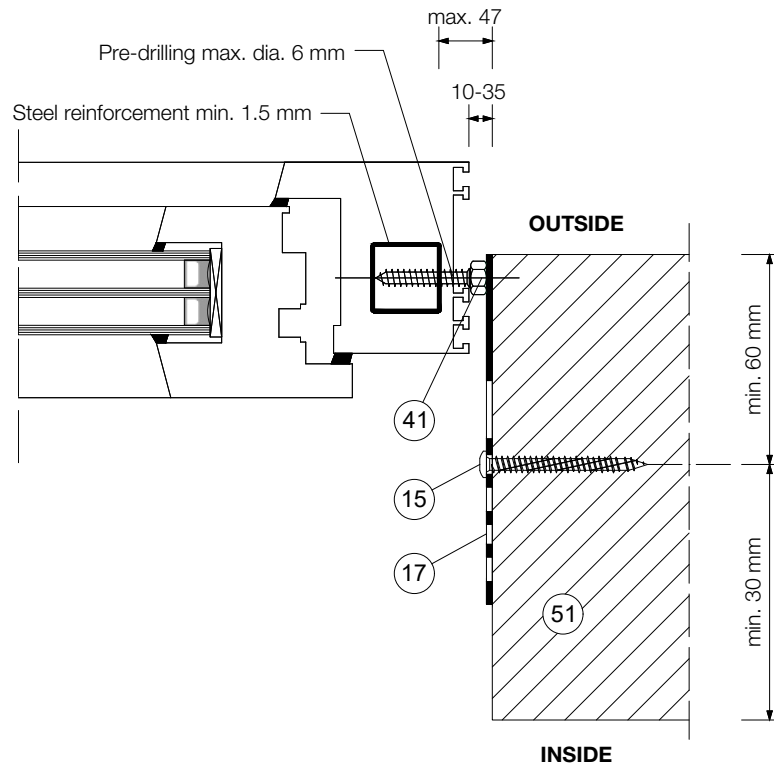
Concrete	min. 40 mm
Sand-lime brick	min. 60 mm
Hollow brick	min. 180 mm
Porous concrete	
PP2	min. 210 mm
PP4 / PP6	min. 180 mm
Wood	min. 60 mm

17 blaugelb Protect

41 Adjusting screw in blaugelb Protect acc. to Table 1

51 Supporting wall structure

Appendix Ia:  
Edge distance for plastic windows



15 blaugelb Frame Screw Fix FK-T30 7.5 x L

**Matching screw-in depths:**

Concrete	min. 40 mm
Sand-lime brick	min. 60 mm
Hollow brick	min. 180 mm
Porous concrete	
PP2	min. 210 mm
PP4 / PP6	min. 180 mm
Wood	min. 60 mm

17 blaugelb Protect

41 Adjusting screw in blaugelb Protect acc. to Table 1

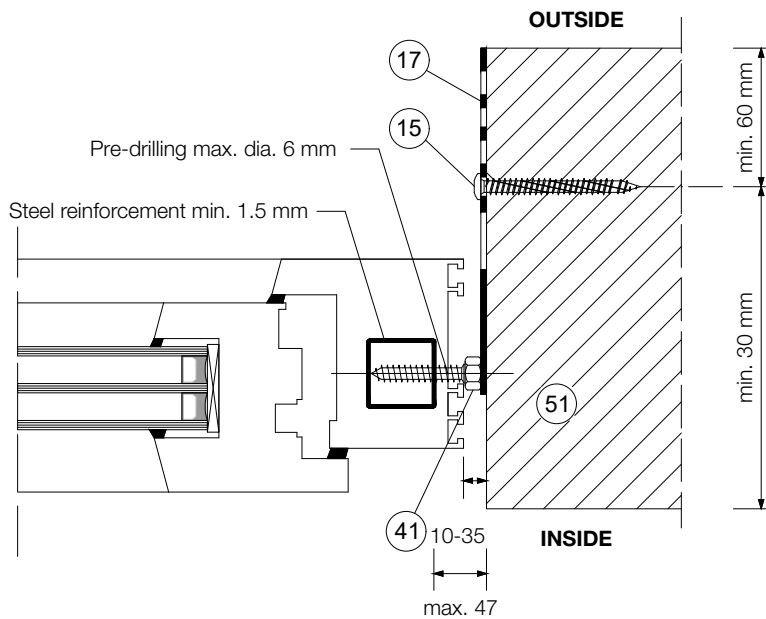
51 Supporting wall structure

# blaugelb Protect fastening system installation instructions

Tested safety, for a good feeling.

Appendix Ia:

Edge distance for plastic windows



15 blaugelb Frame Screw Fix FK-T30 7.5 x L

**Matching screw-in depths:**

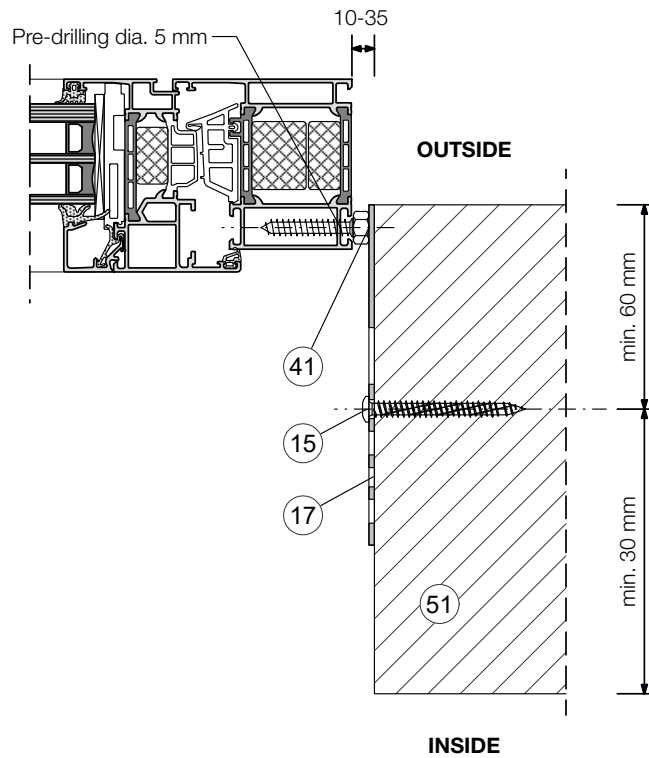
Concrete	min. 40 mm
Sand-lime brick	min. 60 mm
Hollow brick	min. 180 mm
Porous concrete	
PP2	min. 210 mm
PP4 / PP6	min. 180 mm
Wood	min. 60 mm

17 blaugelb Protect

41 Adjusting screw in blaugelb Protect acc. to Table 1

51 Supporting wall structure

Appendix Ib:  
Edge distance for metal windows



15 blaugelb Frame Screw Fix FK-T30 7.5 x L

**Matching screw-in depths:**

Concrete	min. 40 mm
Sand-lime brick	min. 60 mm
Hollow brick	min. 180 mm
Porous concrete	
PP2	min. 210 mm
PP4 / PP6	min. 180 mm
Wood	min. 60 mm

17 blaugelb Protect

41 Adjusting screw in blaugelb Protect acc. to Table 1

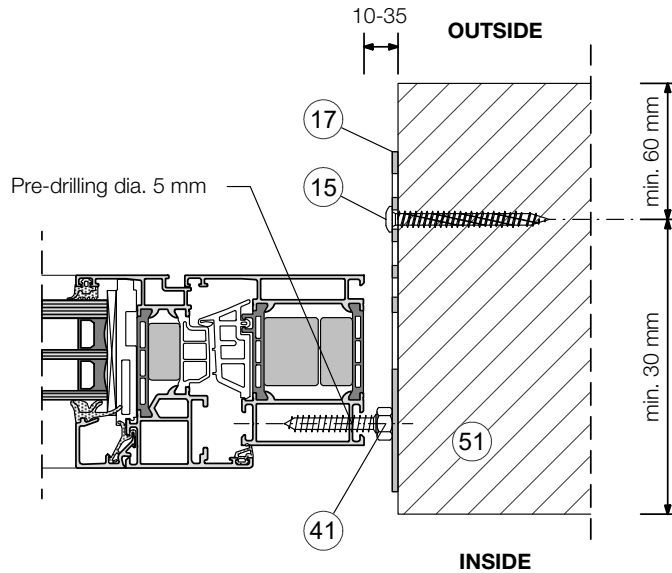
51 Supporting wall structure

# blaugelb Protect fastening system installation instructions

Tested safety, for a good feeling.

Appendix Ib:

Edge distance for metal windows



15 blaugelb Frame Screw Fix FK-T30 7.5 x L

**Matching screw-in depths:**

Concrete	min. 40 mm
Sand-lime brick	min. 60 mm
Hollow brick	min. 180 mm
Porous concrete	
PP2	min. 210 mm
PP4 / PP6	min. 180 mm
Wood	min. 60 mm

17 blaugelb Protect

41 Adjusting screw in blaugelb Protect acc. to Table 1

51 Supporting wall structure



Overview / assignment of blaugelb Protect System for application

Table 1:

Frame material	Width of connection joint	Screw-in depth	Outer edge of window frame to screw engagement	Minimum length of adjusting screw for joint width $\leq 10$ mm	Minimum length of adjusting screw for joint width $\leq 15$ mm	Minimum length of adjusting screw for joint width $\leq 20$ mm	Minimum length of adjusting screw for joint width $\leq 25$ mm	Minimum length of adjusting screw for joint width $\leq 30$ mm	Minimum length of adjusting screw for joint width $\leq 35$ mm
Aluminium	$\leq 35$ mm	$\geq 15$ mm	5 mm	35 mm	35 mm	45 mm	45 mm	50 mm	60 mm
Wood	$\leq 35$ mm	$\geq 35$ mm	0	45 mm	50 mm	60 mm	60 mm	70 mm	70 mm
Plastic	$\leq 35$ mm	$\geq 15$ mm	7 – 12 mm	45 mm	45 mm	50 mm	60 mm	60 mm	70 mm

### Properties / boundary conditions

Porous concrete: PP2

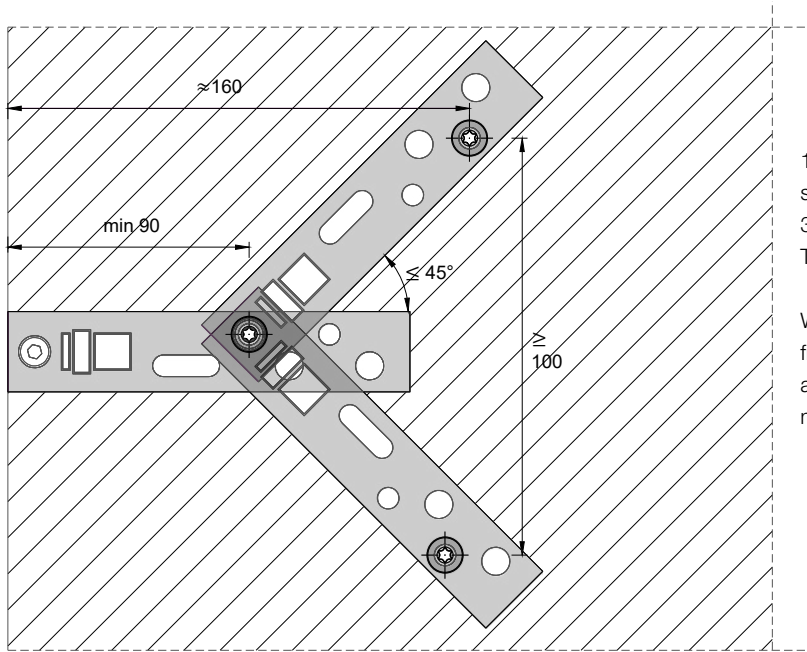
No pilot holes

Screw-in depth: 210 mm

Distance from edge of component:  $\geq 90$  mm

Distance from horizontal joint:  $\geq 60$  mm

### Positioning of blaugelb Frame Screws Fix



1x Protect with adjusting screw and 2x Protect without adjusting screw – angle from horizontal of  $\leq 45^\circ$  and  $\geq 100$  mm  
 3 blaugelb Frame Screws Fix  
 Turn-in depth of screw PP2:  $\geq 210$  mm

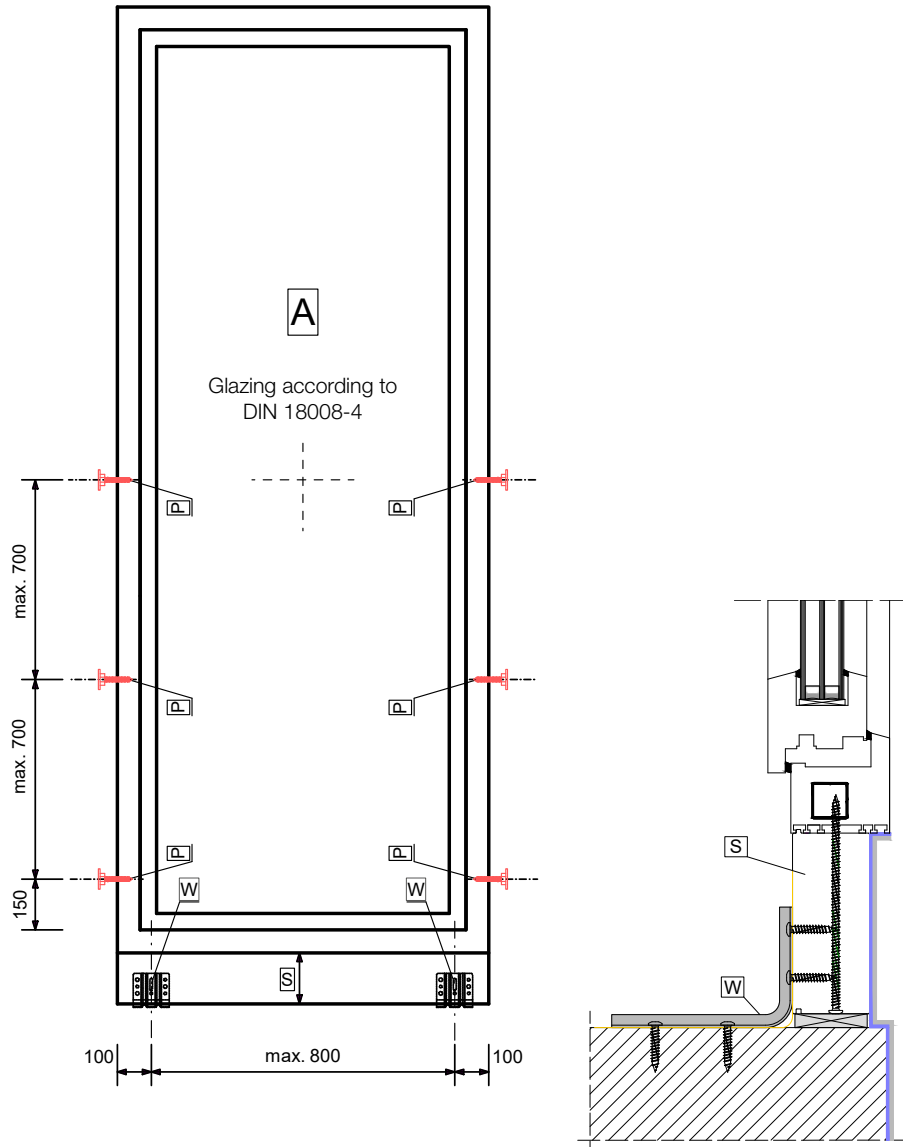
When ensuring the listed minimum edge distances, the spread angle from horizontal may be designed to be less than  $45^\circ$  but the vertical axis distance of the Frame Screws Fix installed in the anchor body must not be less than 100 mm.

# blaugelb Protect fastening system installation instructions

Tested safety, for a good feeling.

Appendix II:

Attachment points in window frames according to the ETB guideline "Components providing fall arrest protection", category A



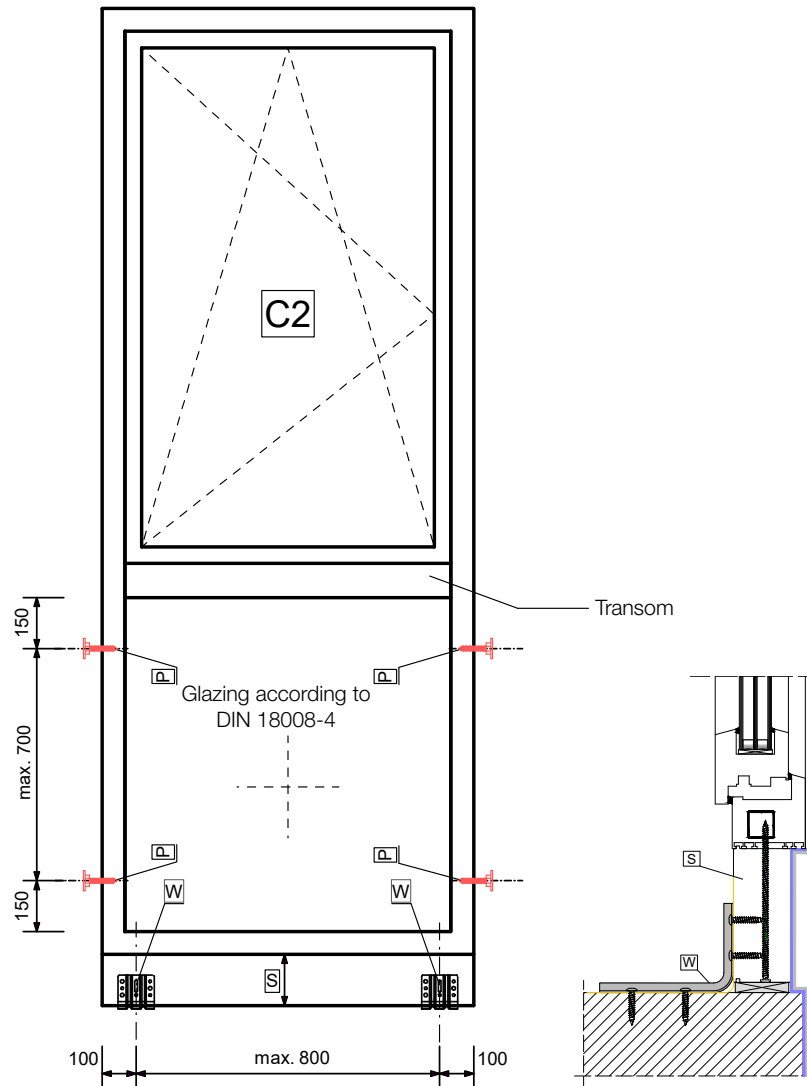
P = fixing in the anchor base with blaugelb Protect and blaugelb Frame Screws Fix FK-T30 7.5 x L

This schematic diagram highlights only the safety-relevant fastenings in accordance with the ETB guideline "Components providing fall arrest protection"

The other attachment points required are determined by the applicable basis for fastening.

Appendix II:

Attachment points in window frames according to the ETB guideline "Components providing fall arrest protection", category C2



P = fixing in the anchor base with blaugelb Protect and blaugelb Frame Screws Fix FK-T30 7.5 x L

This schematic diagram highlights only the safety-relevant fastenings in accordance with the ETB guideline "Components providing fall arrest protection"

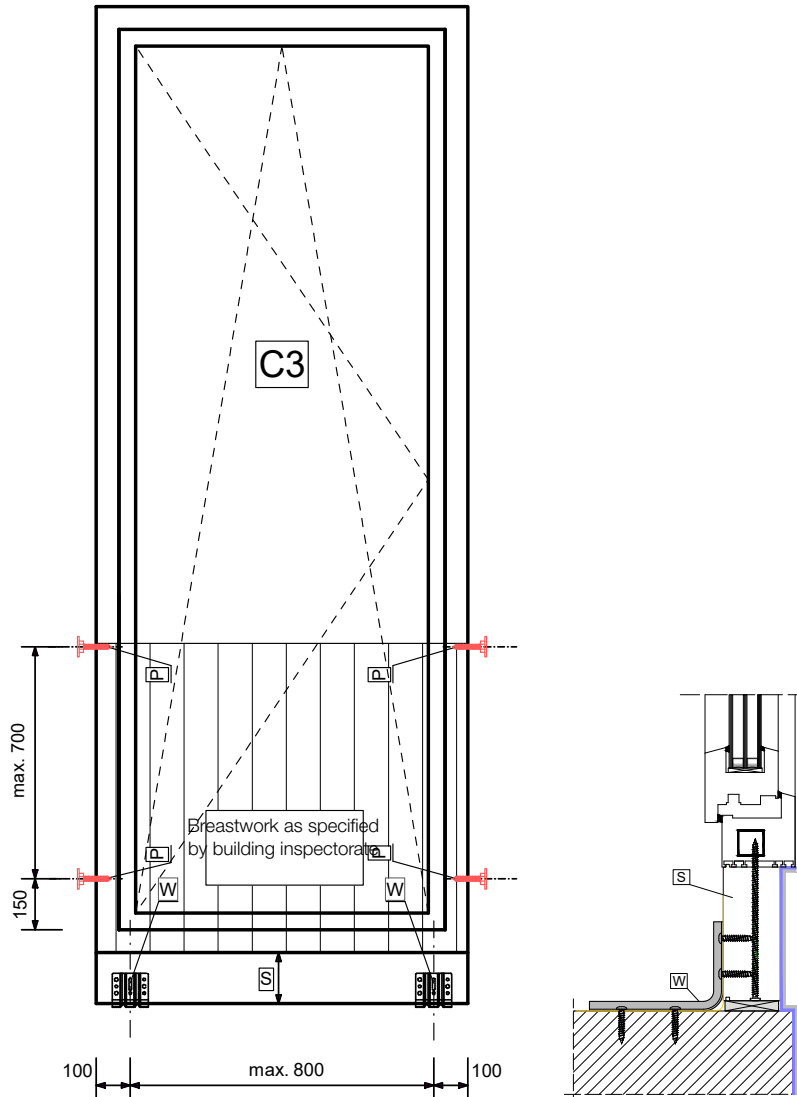
The other attachment points required are determined by the applicable basis for fastening.

# blaugelb Protect fastening system installation instructions

Tested safety, for a good feeling.

Appendix II:

Attachment points in window frames according to the ETB guideline "Components providing fall arrest protection", category C3



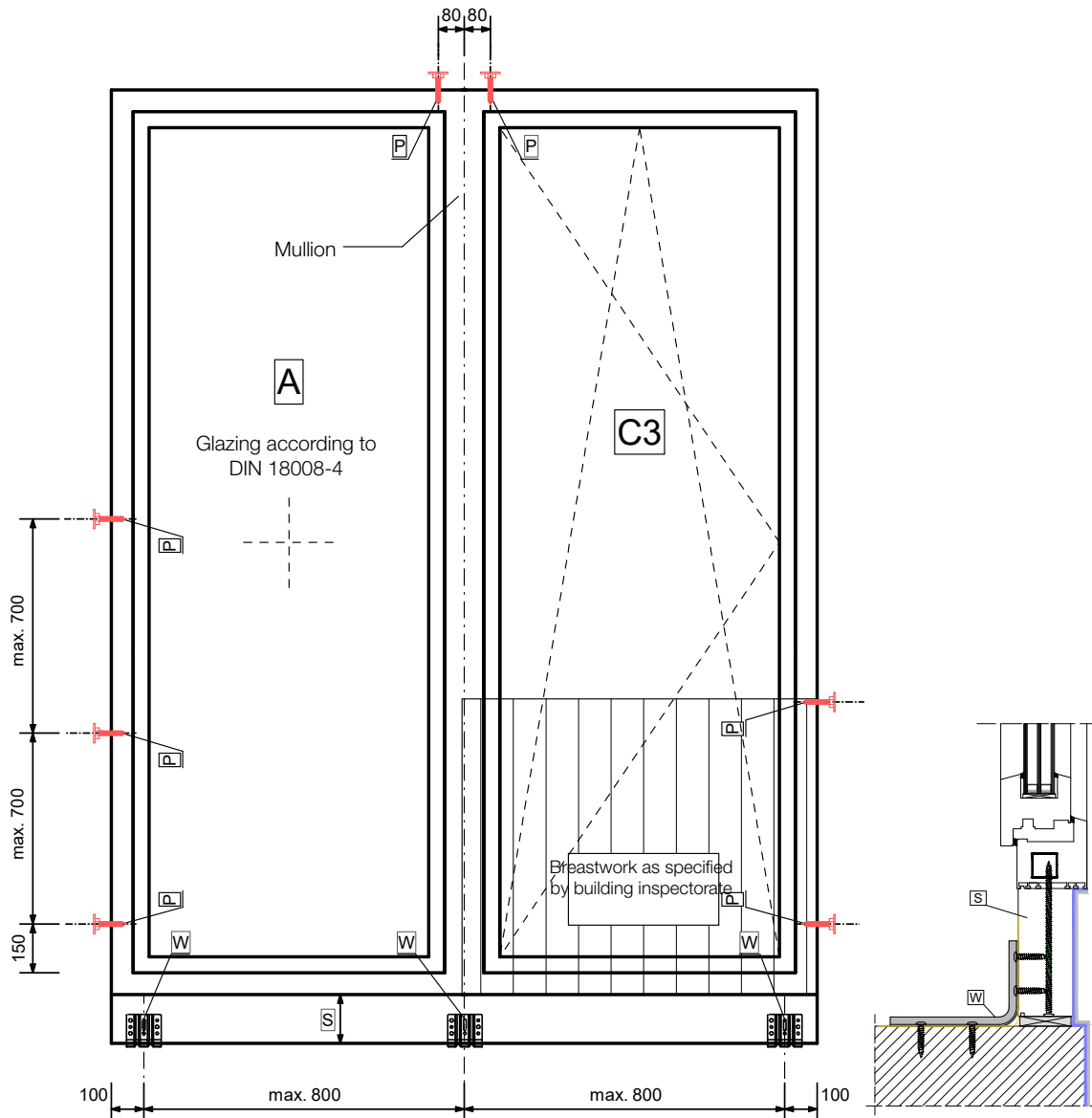
P = fixing in the anchor base with blaugelb Protect and blaugelb Frame Screws Fix FK-T30 7.5 x L

This schematic diagram highlights only the safety-relevant fastenings in accordance with the ETB guideline "Components providing fall arrest protection"

The other attachment points required are determined by the applicable basis for fastening.

Appendix II:

Attachment points in window frames according to the ETB guideline “Components providing fall arrest protection”, combination of category A, C3



P = fixing in the anchor base with blaugelb Protect and blaugelb Frame Screws Fix FK-T30 7.5 x L

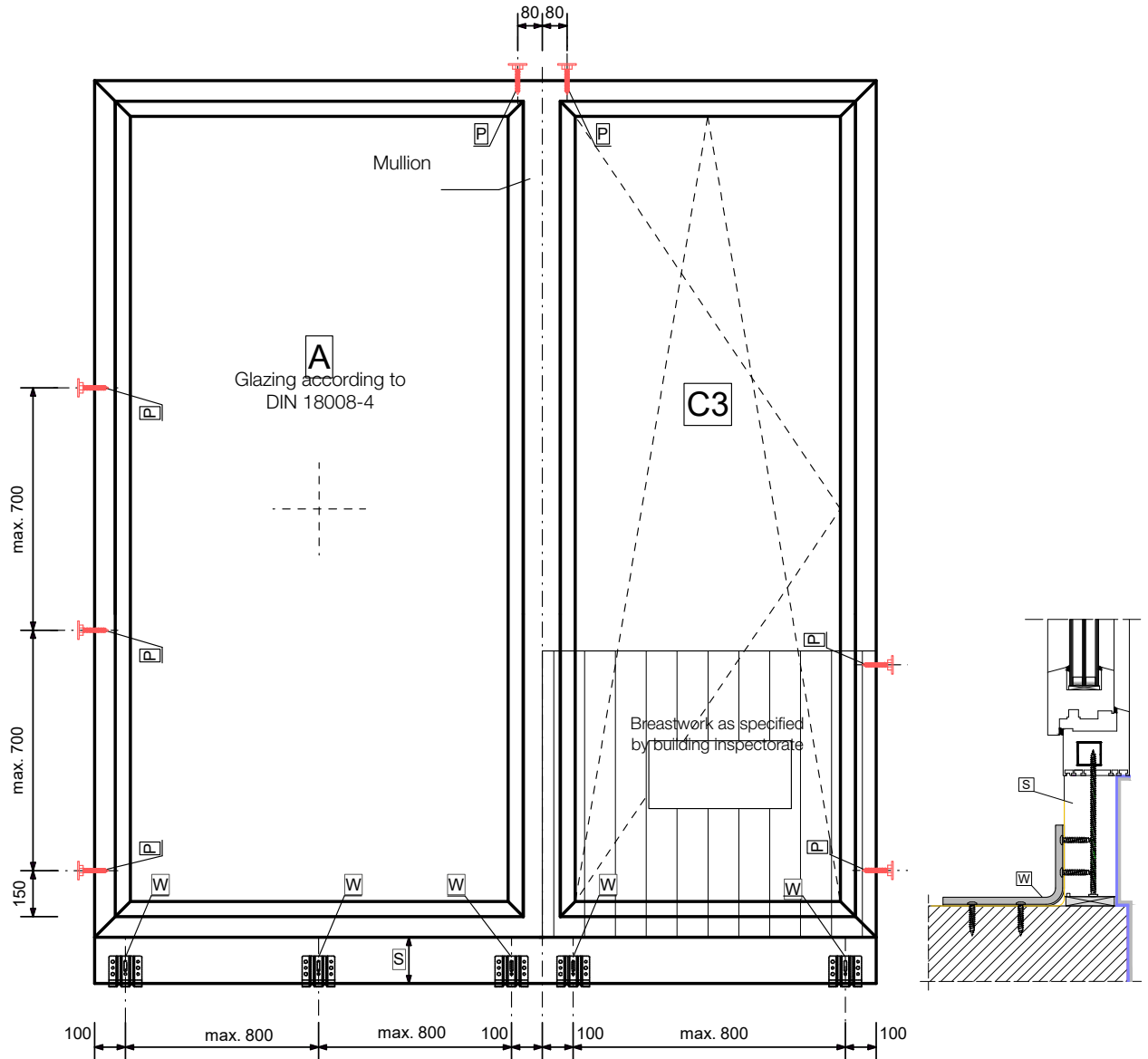
This schematic diagram highlights only the safety-relevant fastenings in accordance with the ETB guideline “Components providing fall arrest protection”  
The other attachment points required are determined by the applicable basis for fastening.

# blaugelb Protect fastening system installation instructions

Tested safety, for a good feeling.

Appendix II:

Attachment points in window frames according to the ETB guideline "Components providing fall arrest protection", combination of category A, C3 – asymmetric element



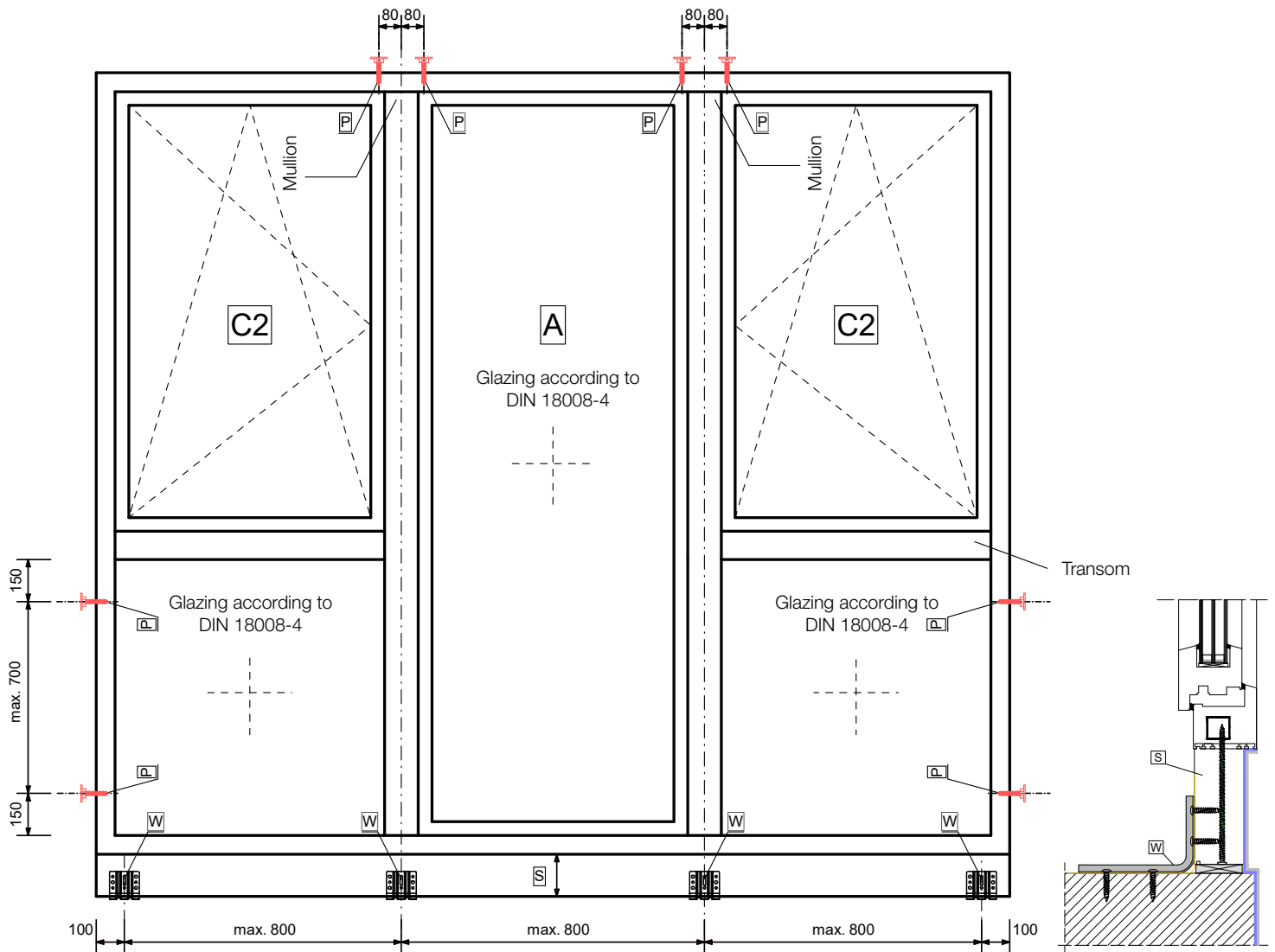
P = fixing in the anchor base with blaugelb Protect and blaugelb Frame Screws Fix FK-T30 7.5 x L

This schematic diagram highlights only the safety-relevant fastenings in accordance with the ETB guideline "Components providing fall arrest protection"

The other attachment points required are determined by the applicable basis for fastening.

Appendix II:

Attachment points in window frames according to the ETB guideline "Components providing fall arrest protection", combination of category C2, A, C2



P = fixing in the anchor base with blaugelb Protect and blaugelb Frame Screws Fix FK-T30 7.5 x L

This schematic diagram highlights only the safety-relevant fastenings in accordance with the ETB guideline "Components providing fall arrest protection"  
 The other attachment points required are determined by the applicable basis for fastening.



## Product features:

The blaugelb Protect fastening system is a simple but adjustable fastening for wood, plastic and aluminium windows which can be fitted around the edges at any required attachment point. The required attachment points of the construction elements and their spacing to one another is guided by the general fitting guidelines (e.g. current RAL "Installation Guidelines, Chapter 5"), taking account of the window weights and, if applicable, the anticipated additional loads.

## Technical data:

Material:	White galvanised strip steel
Dimensions:	2.5 x 30 x 100 mm 2.5 x 30 x 150 mm 2.5 x 30 x 220 mm 2.5 x 30 x 280 mm
Hole diameter in Protect:	8.05 mm for fastening using blaugelb Frame Screw Fix FK-T30  10.5 mm for fastening using a wall-plug system dia. 10 mm
Longitudinal perforation length:	25 mm
Adjusting screw:	Integrated, pivotable 7.5 x 35/45/50/60/70/90 mm T30, white galvanised with tightened hexagonal nut
Adjustment:	Using the tightened hexagon nut with <b>blaugelb Spanner galv.</b> (not included in scope of delivery)
Fastening to building structure:	blaugelb Frame Screw Fix FK-T30 x L  <b>or</b> wall-plug system dia. 10 mm
Preliminary drilled hole in window frame:	<b>Ø 5/6 mm</b> with PVC frame <b>Ø 6 mm</b> with wood frame <b>Ø 5 mm</b> with aluminium frame  Blind hole, facing the installation joint
Reinforcement in window frame (plastic):	At least 1.5 mm, screw-fastening of reinforcement as per profile system specifications

Product name	PU	Item no.
blaugelb Protect Offset Adjusting Screw 100/35 mm	50 pieces	9072634
blaugelb Protect Offset Adjusting Screw 100/45 mm	50 pieces	9190694

Product name	PU	Item no.
blaugelb Protect Offset Adjusting Screw 100/50 mm	50 pieces	9072635
blaugelb Protect Offset Adjusting Screw 100/60 mm	50 pieces	9190695
blaugelb Protect Offset Adjusting Screw 100/70 mm	30 pieces	9072636
blaugelb Protect Offset Adjusting Screw 100/90 mm	30 pieces	9072637
blaugelb Protect Offset Adjusting Screw 150/35 mm	50 pieces	9066758
blaugelb Protect Offset Adjusting Screw 150/45 mm	50 pieces	9190352
blaugelb Protect Offset Adjusting Screw 150/50 mm	50 pieces	9066759
blaugelb Protect Offset Adjusting Screw 150/60 mm	50 pieces	9190353
blaugelb Protect Offset Adjusting Screw 150/70 mm	30 pieces	9068749
blaugelb Protect 150/35 mm	50 pieces	0428828
blaugelb Protect 150/45 mm	50 pieces	9190350
blaugelb Protect 150/50 mm	50 pieces	0428830
blaugelb Protect 150/60 mm	50 pieces	9190351
blaugelb Protect 150/70 mm	50 pieces	0428831
blaugelb Protect 150/90 mm	50 pieces	0428832
blaugelb Protect 150/without adjusting screw	50 pieces	0428833
blaugelb Protect 220/35 mm	25 pieces	0428834
blaugelb Protect 220/50 mm	25 pieces	0428835
blaugelb Protect 220/70 mm	25 pieces	0428836
blaugelb Protect 220/90 mm	25 pieces	0428837
blaugelb Protect 280/35 mm	25 pieces	0428838
blaugelb Protect 280/50 mm	25 pieces	0428839
blaugelb Protect 280/70 mm	25 pieces	0428840
blaugelb Protect 280/90 mm	25 pieces	0428841
blaugelb Protect Spanner galv.	1 piece	9205757